Thank You Mr. Chairman,

As I told you yesterday I am involved in E-navigation studies and I am one of the more than 200 members of the IMO correspondence group on E-navigation. The group is currently working on Gap Analysis :
To explain this phase I prefer to quote the draft report of the correspondance group in his current version

It is recognized and agreed that e-navigation should be developed based on the user needs from the shipboard, shore based and SAR fields. These user needs may already be fulfilled by current maritime functions and services. If not, there are certain discrepancies between what the users want and the current situation. A discrepancy is identified as a 'Gap' which should be filled by practical e-navigation solutions to satisfy the user need. End of quotation

These user needs were collected there is now a little more than two years by surveys mainly conducted by the Norwegian and Canadian maritime administrations as well as the Nautical Institute.

As you can see on this slide, several needs relate to our subcommittee : portrayal on the ECDIS or another screen of the navigation warnings is frequently mentioned.

The first ideas to fill this gap were presented by Korea which has just given them following NAV 57 meeting last june. The answers are proposed in four directions and I present some extracts to you on these slides.

Some ECDIS manufacturers of which TRANSAS and MARIS were interested in the question for some time but the representations, so that I know, remain simple and incomplete.

I was very interested by the document presented by Japan on this question and I noticed what I have highlighted on this slide and which corresponds so that a french ECDIS manufacturer told to me : it's necessary that the warning messages are better formatted to be able to be interpreted by the software and presented to the screen.

A small example. Currently a software can recognize a position when it is expressed in latitude and longitude :a point will be presented to the screen with a window showing the text of the warning, two positions make it possible to present a segment, several positions : a polygon but when the software meets "a circular zone of 3M of radius centered on the position X-Y what does it do? The interpretation of the position is one of the aspects of the problem but it is certainly not the only one.

As our terms of reference indicates it this subject concerns our subcomitee (Slide).
France proposes to establish a correspondance group whose terms of reference would be to submit a more strict format of the navigation warnings.
As our subcommittee is an IHO subcommittee we will have of course to respect the decision of the IMO about S-100 while keeping in mind that the warnings will have to remain in an easily comprehensible language by all those which read them in textual form and not to forget that this messages must also be able to be transmitted by vocal means.

France would be happy if representatives of other countries could join this working group which could also receive advices of ECDIS manufacturers and other specialists. It is likely that we could also have to work with the relevant HSSC's working groups (TSMAD, DIPWG, etc.)

For many people E-navigation remains an abstract concept ; it is a first small concrete step which I propose to you.

Thank you Mister Chairman.

IDENTIFIED GAPS (1)

- Lack of technical solutions for processing, routing, and filtering of information received via communication equipment to enable transfer of the information to navigational systems.

- Lack of technical solutions for presenting communication information/ Maritime Safety Information (MSI) on navigational displays.

- Lack of presentation of warning broadcasts on navigation displays.

- Insufficient means for sorting and display of Maritime Safety Information (MSI) such as NAVTEX, SafetyNET.

- Lack of user-selectable and task oriented presentation of information received via communication equipment (including MSI) on navigational systems.

IDENTIFIED GAPS (2)

- Unless having prior subscription, the current system does not allow for Maritime Safety Information (MSI) and other navigational warnings / broadcast, etc., to be received in real-time mode and be integrated with the navigation display.

- Unavailability of information in real-time with possible presentation on the navigational display to support bridge operation.

- Lack of integrated secondary screen option for digital publications and MSI.

PROPOSED PRACTICAL E-NAVIGATION SOLUTIONS TO ADDRESS IDENTIFIED GAPS (1)

Operational (Procedural, automation, *human element*)

(135-Gte01-Sop01) For appropriate MSI to be presented on a navigational display using standard symbology and text support

(135-Gte01-Sop02) Navigation system need to identify appropriate MSI during route planning and voyage planning

(135-Gte01-Sop03) [Human element consideration should be given to the effective use of symbology and prevention of information overload]

(135-Gte01-Sop04) Automatic transfer of information received via communication equipment into the navigational systems for presentation

(135-Gte01-Sop05) MSI or other navigational warning/broadcasts via communication equipment should be presented on navigational display system to be recognized by OOW

PROPOSED PRACTICAL E-NAVIGATION SOLUTIONS TO ADDRESS IDENTIFIED GAPS (2)

Technical (e.g.. H/W , S/W, equipment, links, data structure)

(135-Gte01-Ste01) Database and presentation library to display the MSI

(135-Gte01-Ste02) Message based on S-100 and portrayal

(135-Gte01-Ste03) Standard interface btw suitable carriers such as NAVTEX, AIS and Display

(135-Gte01-Ste04) It should be a display with standards

(135-Gte01-Ste05) Enables consistency of alerts to users

PROPOSED PRACTICAL E-NAVIGATION SOLUTIONS TO ADDRESS IDENTIFIED GAPS (3)

Regulatory (regulation, standard)

(135-Gte01-Sre01) Standards for presentation and symbology
(135-Gte01-Sre02) SOLAS Ch.V/18 & Ch.IV
(135-Gte01-Sre03) IMO Res.A.705(17)
(135-Gte01-Sre04) IMO Res.A.706(17)
(135-Gte01-Sre05) Joint IMO/IHO/WMO Manual on MSI
(135-Gte01-Sre06) S-100
(135-Gte01-Sre07) Revision of IEC 61162 standard
(135-Gte01-Sre08) Revision of ECDIS, INS performance standard
(135-Gte01-Sre09) Revision of ECDIS presentation library and symbology

PROPOSED PRACTICAL E-NAVIGATION SOLUTIONS TO ADDRESS IDENTIFIED GAPS (4)

Training (human element)

(135-Gte01-Str01) Recognizing symbols and managing alerts
(135-Gte01-Str02) Relationship with other equipment
(135-Gte01-Str03) <u>Revision of training course</u> to operate comm. and nav. equipment involved within transfer of information

Proposal for overlaying navigational warnings in ECDIS

It is necessary to solve three problems to display the navigational warnings in ECDIS.

- ◆ *The format of navigational warnings*

- ◆ *The method to send data from the receiver to ECDIS*

- ◆ The information management to display the navigational warnings

TERMS OF REFERENCE WWNWS-SC

2. Study and propose new methods to enhance the provision of Maritime Safety Information (MSI) to mariners at sea.

NAV 57 REPORT

6.7 The Sub-Committee noted further that COMSAR 15 had agreed that IHO's S-100 data model should be used as a baseline for creating a framework for data access and information services under the scope of SOLAS...